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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,662

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IRVINE, CA 92618

12/10/2008

EXAMINER

CHARLES, MARCUS

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,662	Applicant(s) EGAMI ET AL.	
	Examiner Marcus Charles	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the amendment filed 8-20-2008, which has been entered.

Claims 1-30 are currently pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “part of the slide layer enters the pores inside the surface layer from the surface opening.....” as in claims 19-20, 25-26, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 21-25 and 27-30 are objected to because of the following informalities:
the term "fro" should be --from--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, the intended scope of the claim is unclear because if the phrase in the parenthesis are part of the claimed invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4, 19 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipate by JP (09-112560). JP (09-112560) discloses a slide bearing comprising a matrix (4) made of metal, a slide layer (see attached) formed on a predetermined surface of the matrix and having a bearing surface which slides with a shaft member (3),

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the matrix has contact surface which performs one of a rolling or sliding over a mating member and the matrix is made of an Fe-base sintered metal material.

In claim 4, note the slide layer comprises a lubricant.

In claims 19, JP (09-112560) discloses the claimed invention including part of the slide layers enters the pores inside the surface layer.

In claims 21-24, note, JP (09-112560) discloses the claimed invention including the contact surface is formed on the outer peripheral surface of the matrix (4) and the slider layer (see attached drawing) is formed on the inner peripheral surface of the layer to both ends surfaces of the matrix which forms thrust bearing ends.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (09-112560) in view JP (2002-364647). JP (09-112560) discloses part of the slide layers enters the pores inside the surface layer and the device having a surface opening ratio between 3-15 % but does not disclose the surface opening ratio of 20-50 % and the product of linear expansion coefficient of the material composition forming the slide material composition forming the layer and the thickness of the slide is 0.15 or less. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of JP (09-112560) to include the surface opening ration of 20-50 %

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and the product ratio of 0.15 or less, since it has been held that where the general conditions of a claim is disclosed in the prior art, discovering the optimum ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

9. Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (09-112560) in view JP (2002-364647). JP (09-112560) does not disclose the slide material composition further comprises porous silica impregnated with a lubricant, such that the porous silica globular porous having interconnected pores and the lubricant is silicone oil. JP (2002-364647) discloses a bearing comprising a slide layer (2) comprising a porous silica which is a ball-like silica having a mean particle diameter of 0.5-100 μm (see pages 5, line 16-20) of the machine translation) and a the base material of the composition forming the slide is polyethylene resin (see translation page 4, lines 36), the oil comprises silicone oil (see translation page 8, line 16) in order to increase sliding effect with less friction. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device JP (09-112560) to include the limitation JP (2002-364647) order to increase sliding effect with less friction.

10. Claim 10, 13 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (09-112560) in view JP (04-152296). JP (09-112560) disclose the claimed invention in paragraph 4 above, except for the slide bearing comprising a cam follower comprising a shaft member cantilevered at one end. JP (04-152296) discloses a slide bearing comprising a cam follower in rolling contact with on a cam surface of a rocker arm. Therefore, it would have been obvious to one of ordinary skill in the art at

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the time of the invention to modify the device of JP (09-112560) so that the slide bearing is used as a cam follower having a cantilevered shaft member in view of JP (04-152296) in order to improve the rolling capacity and reduce the reactive force on the bearing during the rolling motion.

In claim 13, note the slide layer comprises a lubricant.

In claim 27-30, note, JP (09-112560) discloses the claimed invention including the contact surface is formed on the outer peripheral surface of the matrix (4) and the slider layer (see attached drawing) is formed on the inner peripheral surface of the layer to both ends surfaces of the matrix which forms thrust bearing ends.

11. Claims 11-12 and 25- 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (09-112560) in view JP (2002-364647). JP (09-112560) discloses part of the slide layers enters the pores inside the surface layer and the device having a surface opening ratio between 3-15 % but does not disclose the surface opening ratio of 20-50 % and the product of linear expansion coefficient of the material composition forming the slide material composition forming the layer and the thickness of the slide is 0.15 or less. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of JP (09-112560) to include the surface opening ration of 20-50 % and the product ratio of 0.15 or less, since it has been held that where the general conditions of a claim is disclosed in the prior art, discovering the optimum ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

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12. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP (09-112560) in view of JP (2002-364647) as applied to claim 10 above, and further in view of JP (2002-364647). JP (09-112560) does not disclose the slide material composition further comprises porous silica impregnated with a lubricant, such that the porous silica globular porous having interconnected pores and the lubricant is silicone oil. JP (2002-364647) discloses a bearing comprising a slide layer (2) comprising a porous silica which is a ball-like silica having a mean particle diameter of 0.5-100 μm (see pages 5, line 16-20) of the machine translation) and a the base material of the composition forming the slide is polyethylene resin (see translation page 4, lines 36), the oil comprises silicone oil (see translation page 8, line 16) in order to increase sliding effect with less friction. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the device JP (09-112560) to include the limitation JP (2002-364647) order to increase sliding effect with less friction.

Claim Rejections - 35 USC § 103

13. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP (0291691) in view of JP (04-160224). EP (0291691) discloses a slide bearing comprising a matrix (4) made of metal (see cross section representing metal in fig. 1), a slide layer (16) formed on a predetermined surface of the matrix (14) and having a bearing surface (17) which slides with a shaft member (3), the matrix has contact surface which performs one of a rolling or sliding over a mating. EP (0291691) fails to disclose the matrix is made of a Fe-base sintered metal material. JP (04-160224) discloses a slide bearing comprising a matrix made of metal that is Fe-base sintered

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metal material. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the matrix of EP (0291691) so that it is made of a Fe -base sintered metallic material in order to reduce weight, retain lubricant and reduce frictional wear.

In claim 4, not the slide member comprises a lubricant.

Response to Arguments

Applicant's arguments with respect to claim 1-18 have been considered but are moot in view of the new ground(s) of rejection.

Citation

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the prior art cited in attached PTO Form 892.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus Charles whose telephone number is (571) 272-7101. The examiner can normally be reached on Monday-Thursday 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ridley Richard can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcus Charles

/Marcus Charles/

Primary Examiner, Art Unit 3656

